UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/961,020	09/21/2001	Hiroaki Kubo	JP920000259US1	5130

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IBM Corporation
Dept. N50/Bldg. 40-4
1701 North Street
Endicott, NY 13760

FLETCHER, JAMES A	

ART UNIT	PAPER NUMBER
2616	

DATE MAILED: 04/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	09/961,020	KUBO ET AL.
	Examiner	Art Unit	
	James A. Fletcher	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>24 February 2005</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-20</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-20</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>24 February 2005</u>.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____ .

DETAILED ACTION

Information Disclosure Statement

1.   In the Information Disclosure Statement filed 24 February 2005, Japanese patent 11-351422, disclosing a "Ball Poppet Pneumatic Control Valve." Although the examiner has considered this document and not found its disclosure necessary in the prosecution of this office action, he also does not find it relevant to the instant invention, and advises the applicant that he believes it was submitted in error.

Response to Arguments

2.   Applicant's arguments filed 24 February 2005 have been fully considered but they are not persuasive.

In re page 8, applicants' representative states: "Yamamoto does not disclose that the bitstream input from the tuner 1 comprises a plurality of programs."

The examiner respectfully disagrees. Yamamoto clearly discloses a plurality of programs in the multiplexed bitstream being output from the tuner. Although the examiner believes the cited passages are sufficient, the references, when taken as a whole, provide additional disclosure meeting the applicants' recited claim limitations. Please see Col 4, lines 54-57, and Col 7, lines 13-15.

Further in re page 8, applicants' representative states "Yamamoto does not disclose that the plurality of programs are multiplexed in a time division manner."

The examiner again respectfully disagrees. First, the claimed "plurality of programs" is adequately broad to allow the audio and video signals in an MPEG bitstream to read on the limitation. Since Yamamoto discloses his transport stream to be MPEG2, which is defined as a time-multiplexed data stream, Yamamoto clearly discloses the claimed feature.

Further, even if the claim were read narrowly, the use of time-division multiplexing of multiple packetized data streams is well known to those of ordinary skill in the art at the time of the invention, and is a logical choice for the output of a tuner, particularly on a single digital bit stream. Time-division multiplexing is used in a variety of situations where multiple packetized bit streams must share a common line, such as IP based computer networks and satellite television.

In re page 9, applicants' representative states: "Yamamoto does not disclose the 'generating' limitation in the preceding feature of claims 1, 9, and 15."

The examiner respectfully disagrees. The passage cited in the office action clearly discloses the generation of a second bitstream by the demultiplexer. The fact that the bitstream is recorded appears to be misinterpreted by the applicant's representative as an assertion that the signal is generated, however that is not the assertion made by the examiner. To explain, the demultiplexer has an input that is not directly coupled to the output. The functioning of demultiplexers in this way is well known to those familiar with the art. Therefore, in order to have an output, the demultiplexer must "generate" the output, meeting the limitation recited in the applicant's claim.

In re pages 10 and 11, applicants' representative states: "the Examiner has not

made any showing of where the prior art suggests 'time division control means for

controlling the transmitting and reading of the second compressed data to and from the

recording means in a time division manner' for the purpose of 'simultaneous recording

and reproduction'. Indeed, the examiner appears to have learned of this advantage

from Applicants' specification, which recites the following object of the invention on page

3, lines 6-8 'An object of the present invention is to provide an apparatus for recording

and reproducing digital data, which is capable of recording digital broadcast data while

reproducing previously-recorded digital broadcast data.'"

The examiner respectfully disagrees. Thomason clearly teaches a means for

using a memory that is not capable of simultaneous reading and writing of data to

alternately read and write digitized audio and video data at such a rate so as to appear

simultaneous. This alternation clearly reads on the applicant's "time division manner" of

transmitting and reading of the second compressed data. While simultaneous record

and reproduction was not a significant feature of Yamamoto, its use has been well

known by those of knowledge in the art, and its inclusion in Yamamoto is an obvious

modification.

In re page 11, applicants' representative states: "the preceding quote from

Yamamoto discusses only a single PES packet, which does not satisfy the limitation of

'a plurality of said MPEG2-PES data', as required by claims 3, 11, and 16.

The examiner again respectfully disagrees. As analyzed and discussed above,

the broadly claimed "plurality of MPEG2-PES data" is by the cited reference. As is

understood by those of skill in the art, a packetized elementary stream (PES) is known

to contain multiple packets of data. These packets may be comprised of image, sound,

navigation, and other data. These packets, taken individually, will typically only contain

one type of data, and therefore, any stream of them would necessarily be comprised of

a plurality of different packets, multiplexed in a time-division fashion, which reads on the

applicants' claimed feature.

In re page 12, applicants' representative states: "Yamamoto in further view of

Thomason does not teach or suggest the feature: 'further comprising reproduction

control means for reading the second compressed data from the recording means and

transmitting the second compressed data to the reproducing means'."

The examiner again respectfully disagrees. Applicants' representative appeared

to emphasize the word "transmitting" in the above statement. The passage from

Yamamoto quoted in the office action contains the words "and output the PES packet

data to the PES packet buffer 23." As is understood by those of skill in the art, buffers

are known to be an integral part of a data reproduction mechanism, appearing in

devices ranging from DVD players, PVRs, and even hard disk drives. Additionally, the

PES packet buffer 23 is clearly illustrated as being an element of the reproduction path

in Yamamoto Fig. 1. Clearly, the outputting of the PES packet data to the PES packet

buffer meets the applicant's recited "transmitting" to the reproduction means.

Further in re page 12, applicants' representative states: "Yamamoto in further

view of Thomason does not teach or suggest the feature: 'monitoring means for

monitoring the amount of data transmitted from the reproduction control means to the

data reproducing means'."

The examiner respectfully disagrees. The passage from Yamamoto quoted in

the office action contains the words "according to an available space in the PES packet

buffer." In order to be able to control data transfer "according to an available space," it

is clearly necessary to monitor not only the amount of space in the buffer, but the

amount of data being fit into that space.

In re page 13, applicants' representative states: "the Examiner is therefore

arguing that Yamamoto discloses navigation control block 22 for monitoring the amount

of data transmitted from the navigation control block 22 to the AV decoder 24, which

Yamamoto most certainly does not disclose."

The examiner believes the applicants' representative has misinterpreted the

examiner's reasons for citing the passage, as noted above.

Further in re page 13, applicants' representative states: "Yamamoto in further

view of Thomason does not teach or suggest the feature: 'selecting means for

selectively transmitting the compressed audio/video data extracted by the data

separating means to the data reproducing means'."

The examiner respectfully disagrees. Yamamoto discloses a digital video

recorder that records and reproduces both normal play and trick play data. When the

user selects either normal or trick play reproduction, he must do so through a means

that would clearly meet the limitation of a selecting means. That means would then

selectively transmit the selected data to the data reproducing means.

In re page 14, applicants' representative states: "The examiner alleges that the user interface control block 25 of Yamamoto represents the 'selecting means' in the Examiner's analysis of claim 5."

The examiner did not refer to interface control block 25 in his analysis of claim 5. The examiner believes the applicants' representative is referring to the analysis of claim 6.

Further in re page 14, applicants' representative states: "the Examiner is therefore arguing that Yamamoto discloses user interface control block 25 for selectively transmitting the compressed audio/video data extracted by the demodulation/error correction unit 3 to the AV decoder 24, which Yamamoto most certainly does not disclose."

The examiner is confused by this conclusion. The examiner asserts that the user interface control block 25 is the means the user has to control the various functions of the Yamamoto device. He does not assert that user interface control block 25 does any transmitting of A/V data. Rather, it only transmits control data to the navigation control block 22, which, under further control of the index file reading block 20, commands the PES packet reading block 21 to read selected packets. These packets are provided by AV-HDD1 10, which is an element in the signal path from the demultiplexer 3.

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4.   Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto et al (6,628,890), in further view of Thomason et al (6,018,612)

Regarding claims 1 and 9, Yamamoto et al disclose an apparatus and method for recording and reproducing digital data, comprising:

- receiving means for receiving first compressed data composed of a plurality of packets, the first compressed data including a plurality of programs multiplexed in a time division manner (Col 4, lines 57-63 "The demodulation/error correction unit 2 performs demodulation and error correction for the bitstream input from the tuner 1, converts the same into a transport stream [TS] defined by MPEG2 system, and output the TS to the demultiplexer unit 3. The demultiplexer unit 3 demultiplexes an audio or video PES packet of one program from the TS input");

- data separating means for extracting specific compressed audio/video data corresponding to a desired program from the first compressed data received by the receiving means (Col 4, lines 62-64 "The demultiplexer unit 3 demultiplexes an audio or video PES packet of one program from the TS input");

- record control means for generating second compressed data including the compressed audio/video data extracted by the data separating means (Col 4,

line 67 -Col 5, line 2 " The PES packet storage block 8 records the audio or

video PES packet input from the demultiplexer unit 3, in the A/V-HDD1");

- recording means for recording the second compressed data generated by the

record control means (Col 1, lines 7-8 "digital recording/reproduction

apparatus");

- data reproducing means for decoding the compressed audio/video data

included in the second compressed data (Col 5, lines 23-26 "The reproduction

device 32 comprises...an A/V decoder 24"); and

- Yamamoto et al do not disclose a means for controlling the transmitting and

reading of the data to and from the recording means in a time division

manner.

Thomason et al disclose an apparatus for recording and reproducing

digital data comprising a time division control means for controlling the

transmitting and reading of the second compressed data to and from the

recording means in a time division manner (Col 4, lines 43-51 "Data arrives at

the input terminal 50...but as the disk in the main memory 36 may be

temporarily busy for another operation, the data arriving will be buffered in an

input buffer 35a... As soon as the disk is capable of receiving the data, the

data stored in the input buffer 35a is...applied to the input 54 of the main

memory 36, for storage on the disk" and Col 4, lines 53-56 "Data will also be

regularly requested from the main memory disk 36 to be displayed on the TV

screen. Again the disk may be temporarily busy for another operation. Data

is stored in the output buffer 35b is now supplied to the output 51b, and thus applied to the output terminal 53").

As taught by Thomason et al, time division multiplexing of a read/write head allows for apparent simultaneous recording and reproduction, which improves the performance of the recording and reproducing apparatus and increases its value to the user.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Yamamoto to provide for time division multiplexing of a single read/write head on the main memory.

Regarding claim 15, Yamamoto et al disclose an apparatus for recording and reproducing digital data, comprising:

- a receiver for receiving first compressed data composed of MPEG2_TS data, the first compressed data including a plurality of programs multiplexed in a time division manner (Col 4, lines 57-63 "The demodulation/error correction unit 2 performs demodulation and error correction for the bitstream input from the tuner 1, converts the same into a transport stream [TS] defined by MPEG2 system, and output the TS to the demultiplexer unit 3. The demultiplexer unit 3 demultiplexes an audio or video PES packet of one program from the TS input");

- a filter for extracting specific compressed audio/video data corresponding to a desired program from the first compressed data received by the receiver (The

demultiplexer unit 3 demultiplexes an audio or video PES packet of one

program from the TS input");

- a data unloader for generating second compressed data composed of

  MPEG2-PES data including the compressed audio/video data extracted by

  the filter (Col 4, line 67 -Col 5, line 2 " The PES packet storage block 8

  records the audio or video PES packet input from the demultiplexer unit 3, in

  the A/V-HDD1");

- a recorder for recording the second compressed data generated by the data

  unloader (Col 1, lines 7-8 "digital recording/reproduction apparatus");

- a decoder for decoding the compressed audio/video data included in the

  second compressed data (Col 5, lines 23-26 "The reproduction device 32

  comprises...an A/V decoder 24"); and

- Yamamoto et al do not disclose a means for controlling the transmitting and

  reading of the data to and from the recording means in a time division

  manner.

      Thomason et al disclose an apparatus for recording and reproducing

digital data comprising a time division control means for controlling the

transmitting and reading of the second compressed data to and from the

recording means in a time division manner (Col 4, lines 43-51 "Data arrives at

the input terminal 50...but as the disk in the main memory 36 may be

temporarily busy for another operation, the data arriving will be buffered in an

input buffer 35a... As soon as the disk is capable of receiving the data, the

data stored in the input buffer 35a is…applied to the input 54 of the main

memory 36, for storage on the disk" and Col 4, lines 53-56 "Data will also be

regularly requested from the main memory disk 36 to be displayed on the TV

screen. Again the disk may be temporarily busy for another operation. Data

is stored in the output buffer 35b is now supplied to the output 51b, and thus

applied to the output terminal 53").

As taught by Thomason et al, time division multiplexing of a read/write

head allows for apparent simultaneous recording and reproduction, which

improves the performance of the recording and reproducing apparatus and

increases its value to the user.

Therefore, it would have been obvious to one of ordinary skill in the art

at the time of the invention to modify Yamamoto to provide for time division

multiplexing of a single read/write head on the main memory.

Regarding claims 2 and 10, Yamamoto et al disclose an apparatus and method

for recording and reproducing digital data wherein the first compressed data is MPEG2-

TS data and the second compressed data is MPEG2-PES data (Col 7, lines 22-24 "The

demultiplexer unit 3 demultiplexes, from the input TS, an audio or video PES

packet…and outputs the PES packet").

Regarding claims 3, 11, and 16, Yamamoto et al disclose an apparatus and

method for recording and reproducing digital data wherein a plurality of the MPEG2-

PES data is recorded by the recording means as one stream of data (Col 7, lines 27-29

"the PES packet storage block records the audio or video PES packet output by the demultiplexer unit 3, in the A/V-HDD").

Regarding claim 4, 13 and 17, Yamamoto et al disclose an apparatus for recording and reproducing digital data comprising reproduction control means for reading the second compressed data from the recording means and transmitting the second compressed data to the data reproducing means (Col 8, line 66 - Col 9, line 4 "the navigation control block 22 instructs the data transfer to the PES packet reading block 21 according to an available space in the PES packet buffer 23. The PES packet reading block 21 extracts an audio or video PES packet from the A/V-HDD 1 (10), and output the PES packet data to the PES packet buffer 23").

Regarding claims 5, 14, and 18, Yamamoto et al disclose an apparatus for recording and reproducing digital data comprising monitoring means for monitoring the amount of data transmitted from the reproduction control means to the data reproducing means (Col 8, line 66 - Col 9, line 1 "the navigation control block 22 instructs the data transfer to the PES packet reading block 21 according to an available space in the PES packet buffer 23").

Regarding claims 6 and 19, Yamamoto et al disclose an apparatus for recording and reproducing digital data comprising selecting means for selectively transmitting the compressed audio/video data extracted by the data separating means to the data reproducing means (Col 5, lines 28-31 "The user interface control block 25 receives a playback command for normal play or trick play, entered by a user, and

outputs the entered playback command for normal play or trick play to the navigation

control block 22").

Regarding claim 7, Yamamoto et al disclose an apparatus for recording and

reproducing digital data comprising video data decoding section and audio data

decoding section for decoding the compressed video data and compressed audio data,

respectively, in the data reproducing means (Col 5, lines 53-56 "The A/V decoder 24

decodes the audio or video PES packet data input by the PES packet buffer 23, and

outputs the video data to the digital encoder 26 and the audio data to the audio DAC 27,

respectively").

Regarding claims 8 and 20, Yamamoto et al disclose an apparatus for

recording and reproducing digital data wherein the recording means is a hard disk (Col

1, lines 6-10 "a digital recording/reproduction apparatus for recording/reproducing digital

image data which is high-efficiency coded, to/from a random access recording medium

such as an A/V-HDD (Audio/Video-Hard Disk Drive)").

Regarding claim 12, Yamamoto et al disclose a method for recording and

reproducing digital data wherein a plurality of the MPEG2-PES data is recorded as one

stream of data in the order in which the compressed audio/video data is received by the

receiving means (Col 7, lines 22-29 "The demultiplexer unit 3 demultiplexes, from the

input TS, an audio or video PES packet of one program to be recorded in the recording

medium 30, and outputs the PES packet to...the PES packet storage block 8... The

PES packet storage block 8 records the audio or video PES packet output by the

demultiplexer unit 3, in the A/V-HDD").

Conclusion

5.   THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the

examiner should be directed to James A. Fletcher whose telephone number is (571)

272-7377. The examiner can normally be reached on 7:45AM - 5:45PM M-Th, first

Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Andrew Faile can be reached at (571) 272-7375.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, DC 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only).

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal

Drive, Arlington, VA Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or

proceeding should be directed to the Technology Center 2600 Customer Service Office

whose telephone number is (703) 306-0377.

JAF
April 1, 2005

ANDREW FAILE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600